Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the applications:

Listing of Claims:

1. (currently amended) An optical sensor comprising a pressure sensor co-located with a temperature sensor, wherein the pressure sensor and the temperature sensor are operatively connected to a launch fiber, said temperature sensor is made from a material substantially different than the material of the launch fiber, and said pressure sensor is defined between an end of the launch fiber and a reflective surface positioned at a predetermined distance from the end of the launch fiber within a housing, wherein the reflective surface is disposed on an end member, and wherein the launch fiber and the member are bonded to the housing.

2. (currently amended) The optical sensor of claim 1, wherein ~~said pressure sensor comprises: a launch fiber having an end positioned within a tube; and~~ the end member comprises a reflective fiber and said reflective surface comprises ~~having~~ a first end of the reflective fiber, wherein the reflective fiber is bonded to the housing. ~~positioned an initial distance from the end of said launch fiber, said launch and reflective fibers being bonded to said tube.~~

3. (currently amended) The optical sensor of claim 2, wherein an optical coatings ~~are positioned~~ is applied on at least one of said end of said launch fiber and said first end of said reflective fiber.

4. (currently amended) The optical sensor of claim 2, wherein said temperature sensor ~~comprises~~ is located at a second end of said reflective fiber ~~enclosed within a cap formed of a material with a refractive index that changes with a changing temperature~~.

5. (currently amended) The optical sensor of claim 4, wherein said launch and reflective fibers are bonded into a cavity of said housing. ~~tube.~~

6. (original) The optical sensor of claim 5, wherein said pressure sensor determines a pressure by measuring an optical displacement between the end of said launch fiber and the first end of said reflective fiber.

7. (currently amended) The optical sensor of claim 6, wherein as pressure is exerted against said housing ~~tube~~, the distance between the end of the launch fiber and the first end of the reflective fiber is diminished.

8. (currently amended) The optical sensor of claim 4, wherein said temperature sensor determines a temperature by measuring an optical displacement between the second end of said reflective fiber and a surface of said temperature sensor ~~cap~~.

9. (currently amended) The optical sensor of claim 1, wherein said end member comprises the temperature sensor and said reflective surface comprises a first surface on the temperature sensor, and wherein the temperature sensor is bonded to the housing. ~~wherein said pressure sensor comprises:~~

~~a launch fiber having an end positioned within a tube; and~~

~~a material having a refractive index that changes with changing temperature, said material being positioned within said tube a pre-determined distance from the end of said launch fiber.~~

10. (currently amended) The optical sensor of claim 9, wherein said temperature sensor determines a temperature by measuring an optical displacement between the first surface and a second surface of the temperature sensor. ~~, wherein said temperature sensor comprises:~~

~~the material having a refractive index that changes with a changing temperature; and~~

~~a disk attached to an end of said tube adjacent the material having a refractive index that changes with changing temperature.~~

11. (original) A method of forming an optical sensor, comprising the steps of:

filling a cavity of a tube with a material that has a refractive index that changes with a changing temperature;

removing a portion of the material from the cavity;

attaching a silica disk to an end of the tube and adjacent to the material;

inserting an optical fiber in the cavity; and

bonding the optical fiber within the cavity a pre-determined distance from the material.

12. (original) The method of claim 11, wherein the material is silicon and said removing step is accomplished with a chemical etchant.

13. (original) A method of forming an optical sensor, comprising the steps of:

filling a cap with a material that has a refractive index that changes with a changing temperature;

attaching the cap to an end of a tube having a cavity;

inserting an optical fiber in the cavity; and

bonding the optical fiber within the cavity a pre-determined distance from the material.

14. (original) The method of claim 13, further comprising lapping the material in the cap prior to attaching the cap to the tube.

15. (original) The method of claim 13, wherein the material is silicon and said removing step is accomplished with potassium hydroxide.

16. (original) An optical sensor, comprising:

a first pressure sensor co-located with a first temperature sensor; and

a second pressure sensor co-located with a second temperature sensor.

17. (original) The optical sensor of claim 16, wherein said first and second pressure sensors are each located within a cavity of a tube.

18. (original) The optical sensor of claim 17, wherein said first and second pressure sensors each comprises:

a launch fiber having an end positioned within the cavity of said tube; and

a reflective fiber having a first end positioned an initial distance from the end of said launch fiber, said launch and reflective fibers being bonded to said tube.

19. (original) The optical sensor of claim 18, wherein said first and second temperature sensors each comprises a second end of said reflective fiber enclosed within a cap formed of a material with a refractive index that changes with a changing temperature.

20. (original) A method of forming an optical sensor, comprising the steps of:

filling at least two cavities in a tube each with a material that has a refractive index that changes with a changing temperature;

removing a portion of the material from the cavities;

attaching a disk to an end of the tube and adjacent to the material;

inserting an optical fiber in each of the cavities; and

bonding each of the optical fibers within a respective one of the cavities a pre-determined distance from the material.

21. (original) The method of claim 20, wherein the material comprises silicon and said removing is accomplished with potassium hydroxide.

22. (new) The optical sensor of claim 1, wherein the material of the temperature sensor has a refractive index that changes with temperature.

23. (new) The optical sensor of claim 1, wherein the temperature sensor is located outside the housing.

24. (new) The optical sensor of claim 4, wherein the temperature sensor comprises a cap attached to the second end of the reflective fiber.

25. (new) The optical sensor of claim 10, wherein the launch fiber and the temperature sensor are bonded to a tube.

26. (new) The optical sensor of claim 10, wherein the temperature sensor comprises a cap bonded to the tube.